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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,544	08/20/2003	Nicholas W. Whinnett	CE11860EP	6557

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EXAMINER	
NGUYEN, TUAN HOANG	
ART UNIT	**PAPER NUMBER**
2618	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/644,544	WHINNETT ET AL.	
	Examiner	Art Unit	
	Tuan H. Nguyen	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Laakso et al. (US PUB. 2003/0099209 hereinafter, "Laakso").

Regarding claim 1, Laakso discloses a method of operation of a communication device, wherein the power used to transmit pilot bits (read on pilot field) associated with data bits (read on data field) is at least partly dependent on the data rate (read on RI (rate indication) field) at which the data bits are transmitted (Fig. 1 page 3 [0027]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-3, 16-18, 19, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laakso et al. (US PUB. 2003/0099209 hereinafter, "Laakso") in view of Tiedemann, Jr. et al. (U.S PUB. 2004/0258024 hereinafter, "Tiedemann").

Regarding claim 2, Laakso discloses a method of operation of a communication device, wherein the power used to transmit pilot bits associated with data bits is at least partly dependent on the data rate at which the data bits are transmitted (Fig. 1 page 3 [0027]). Laakso differs from the claimed invention in not specifically teaching additional bits are transmitted to minimize impact on the power control process and minimize interference. However, Tiedemann teaches additional bits are transmitted to minimize impact on the power control process and minimize interference (page 3 [0021]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Laakso for additional bits are transmitted to minimize impact on the power control process and minimize interference, as per teaching of Tiedemann, because it improves the response time of the forward link power control loop and allows for dynamic adjustment of the transmission power on the

forward link by measuring the quality of the reverse link power control bits which are transmitted on the forward traffic channel at multiple times within a frame.

Regarding claim 3, Tiedemann further discloses the additional bits are power control bits or additional pilot bits (page 13 claim 36).

Regarding claim 16, Laakso discloses a method of operation of a communication device comprising the steps: receiving pilot bits, associated with data bits, at a received signal level from a user device (Fig. 1 page 3 [0027]). Laakso differs from the claimed invention in not specifically teaching comparing the received signal level to a plurality of threshold values; transmitting a power control command to the user device indicating the position of the received signal level relative to at least one of the plurality of thresholds. However, Tiedemann teaches comparing the received signal level to a plurality of threshold values (page 7 [0067]); transmitting a power control command to the user device indicating the position of the received signal level relative to at least one of the plurality of thresholds (page 7 [0067]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Laakso for comparing the received signal level to a plurality of threshold values; transmitting a power control command to the user device indicating the position of the received signal level relative to at least one of the plurality of thresholds, as per teaching of Tiedemann, because it improves the response time of the forward link power control loop and allows for dynamic adjustment of the transmission

power on the forward link by measuring the quality of the reverse link power control bits which are transmitted on the forward traffic channel at multiple times within a frame.

Regarding claim 17, Tiedemann further discloses the step of transmitting a power control command to the user device includes the step of transmitting multiple power control commands, each indicating the position of the received signal level to one of the plurality of thresholds (page 5 [0050] and page 10 [0096]).

Regarding claim 18, Tiedemann further discloses the thresholds define a plurality of areas and the step of transmitting a power control command to the user device indicating the position of the received signal level relative to at least one of the plurality of thresholds comprises the step of transmitting a power control command to the user device indicating the position of the received signal level within one of the areas defined by the thresholds (page 7 [0071]).

Regarding claim 19, Laakso discloses a method of operation of a communication device comprising the steps sending pilot bits associated with data bits at a transmit power level at least partly dependent upon the data rate at which the data bits are transmitted (Fig. 1 page 3 [0027]). Laakso differs from the claimed invention in not specifically teaching receiving a power control signal indicating the relative position of a corresponding received signal level and at

least one of a plurality of threshold levels; incrementally adjusting the transmit power level dependent on the transmit power level and the indicated relative position. However, Tiedemann teaches receiving a power control signal indicating the relative position of a corresponding received signal level and at least one of a plurality of threshold levels (page 7 [0067]); incrementally adjusting the transmit power level dependent on the transmit power level and the indicated relative position (page 7 [0071]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Laakso for receiving a power control signal indicating the relative position of a corresponding received signal level and at least one of a plurality of threshold levels; incrementally adjusting the transmit power level dependent on the transmit power level and the indicated relative position, as per teaching of Tiedemann, because it improves the response time of the forward link power control loop and allows for dynamic adjustment of the transmission power on the forward link by measuring the quality of the reverse link power control bits which are transmitted on the forward traffic channel at multiple times within a frame.

Regarding claim 22, Tiedemann further discloses the step of receiving a power control signal indicating the relative position of a corresponding received signal level and at least one of a plurality of threshold levels comprises the step of receiving multiple power control commands (page 5 [0050]), each indicating the position of the received signal level to one of the plurality of thresholds, further comprising the step of selecting a power control command corresponding

to the transmitted power level, wherein the step of incrementally adjusting the transmit power is carried out using the selected power control command (page 7 [0067]).

Regarding claim 23, Tiedemann further discloses the step of receiving a power control signal indicating the relative position of a corresponding received signal level and at least one of a plurality of threshold levels comprises the step of receiving a power control command indicating the position of the received signal level within one of the areas defined by the thresholds (page 7 [0071]).

Regarding claim 24, Laakso discloses a communication device comprising: a receiving pilot bits, associated with data bits, at a received signal level from a user device (Fig. 1 page 3 [0027]). Laakso differs from the claimed invention in not specifically teaching comparing the received signal level to a plurality of threshold values; and transmitting a power control command to the user device indicating the position of the received signal level relative to at least one of the plurality of thresholds. However, Tiedemann teaches comparing the received signal level to a plurality of threshold values (page 7 [0067]); and transmitting a power control command to the user device indicating the position of the received signal level relative to at least one of the plurality of thresholds (page 7 [0071]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Laakso for comparing the received signal level to a plurality of threshold values; and transmitting a

power control command to the user device indicating the position of the received signal level relative to at least one of the plurality of thresholds, as per teaching of Tiedemann, because it improves the response time of the forward link power control loop and allows for dynamic adjustment of the transmission power on the forward link by measuring the quality of the reverse link power control bits which are transmitted on the forward traffic channel at multiple times within a frame.

Regarding claim 25, Laakso discloses a communication device comprising: sending pilot bits associated with data bits at a transmit power level at least partly dependent upon the data rate at which the data bits are transmitted (Fig. 1 page 3 [0027]). Laakso differs from the claimed invention in not specifically teaching receiving a power control signal indicating the relative position of a corresponding received signal level and a plurality of threshold levels; and incrementally adjusting the transmit power level dependent on the transmit power level and the indicated relative position. However, Tiedemann teaches receiving a power control signal indicating the relative position of a corresponding received signal level and a plurality of threshold levels (page 7 [0067]); and incrementally adjusting the transmit power level dependent on the transmit power level and the indicated relative position (page 7 [0071]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Laakso for receiving a power control signal indicating the relative position of a corresponding received signal level and a plurality of threshold levels; and incrementally adjusting the transmit power

level dependent on the transmit power level and the indicated relative position, as per teaching of Tiedemann, because it improves the response time of the forward link power control loop and allows for dynamic adjustment of the transmission power on the forward link by measuring the quality of the reverse link power control bits which are transmitted on the forward traffic channel at multiple times within a frame.

5. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laakso et al. (US PUB. 2003/0099209 hereinafter, "Laakso") in view of Tiedemann, Jr. et al. (U.S PUB. 2004/0258024 hereinafter, "Tiedemann") as applied to claim 19 above, and further in view of Yun et al. (US PUB. 2005/0111521 hereinafter, "Yun").

Regarding claim 20, Laakso and Tiedemann, in combination, fails to discloses the step of sending pilot bits associated with data bits at a transmit power level at least partly dependent upon the data rate at which the data bits are transmitted comprises the steps of: determining a gain factor for transmitting the data bits; determining a gain factor for transmitting the pilot bits dependent on the data rate of the associated data bits; and scaling the power at which the data bits and the pilot bits are transmitted in accordance with the gain factors and a received power control message. However, Yun teaches the step of sending pilot bits associated with data bits at a transmit power level at least partly dependent upon the data rate at which the data bits are transmitted comprises the steps of:

determining a gain factor for transmitting the data bits (page 3 [0040]); determining a gain factor for transmitting the pilot bits dependent on the data rate of the associated data bits (page 4 [0047]); and scaling the power at which the data bits and the pilot bits are transmitted in accordance with the gain factors and a received power control message (page 3 [0040]). Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Yun into view of Laakso and Tiedemann, in order for enabling a mobile station receiving a data service or both a data service and a voice service to select a base station that can provide best services and an optimal data rate in a mobile telecommunication system.

Regarding claim 21, Yun further discloses the step of determining a gain factor for transmitting the pilot bits dependent on the data rate of the associated data bits comprises determining a base gain factor and adjusting the base gain factor by an incremental amount dependent on the data rate of the associated data bits (page 4 [0047]).

6. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laakso et al. (US PUB. 2003/0099209 hereinafter, "Laakso") in view of Ponnekanti (U.S PUB. 2002/0150065).

Regarding claims 4 and 14, Laakso discloses for transmitting pilot bits and data bits associated with the pilot bits (page 8 [0059]). Laakso differs from the

claimed invention in not specifically teaching sending a first set of pilot bits at a first power level independent of the data rate of the associated data bits; and sending a second set of pilot bits at a power level related to the data rate of the associated data bits. However, Ponnekanti teaches sending a first set of pilot bits at a first power level independent of the data rate of the associated data bits (page 8 [0149]); and sending a second set of pilot bits at a power level related to the data rate of the associated data bits (page 8 [0149]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Laakso for sending a first set of pilot bits at a first power level independent of the data rate of the associated data bits; and sending a second set of pilot bits at a power level related to the data rate of the associated data bits, as per teaching of Ponnekanti, because it provides transmitting a plurality of directional transmission beams to the receiving via different transmission paths.

7. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laakso et al. (US PUB. 2003/0099209 hereinafter, "Laakso") in view of Ponnekanti (U.S PUB. 2002/0150065) as applied to claim 4 above, and further in view of Yun et al. (US PUB. 2005/0111521 hereinafter, "Yun").

Regarding claim 5, Laakso and Ponnekanti, in combination, fails to discloses the power level of the second set of pilot bits is set to zero at low data rates of the associated data bits. However, Yun teaches the power level of the second set of pilot bits is set to zero at low data rates of the associated data bits

(page 2 [0022]). Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Yun into view of Laakso and Ponnekanti, in order for enabling a mobile station receiving a data service or both a data service and a voice service to select a base station that can provide best services and an optimal data rate in a mobile telecommunication system.

Regarding claim 6, Yun further discloses the steps of determining a first gain factor for the first set of pilot bits (page 2 [0022]); determining a second gain factor for the second set of pilot bits (page 2 [0022]); determining a data gain factor for the data bits (page 3 [0040]); scaling the power at which the data bits and the pilot bits are transmitted in accordance with the respective gain factors and a received power control message (page 3 [0040]).

Regarding claim 7, Yun further discloses the second gain factor for the second set of pilot bits is set to zero at low data rates of the associated data bits (page 3 [0040]).

8. Claims 8, 10-13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ponnekanti (U.S PUB. 2002/0150065) in view of Yun et al. (US PUB. 2005/0111521 hereinafter, "Yun").

Regarding claims 8 and 15, Ponnekanti discloses receiving pilot bits and data bits associated with the pilot bits from a user device, wherein the power of a first set of pilot bits is independent of the data rate of the data bits and the power of a second set of pilot bits is related to the data rate of the data bits, comprising the steps of: deriving power control information from the first set of pilot bits (page 8 [0149]). Ponnekanti differs from the claimed invention in not specifically teaching deriving channel estimation information from the first set and second set of pilot bits. However, Yun teaches deriving channel estimation information from the first set and second set of pilot bits (page 1 [0005] and page 3 [0036]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Ponnekanti for deriving channel estimation information from the first set and second set of pilot bits, as per teaching of Yun, because it enhances a mobile station receiving a data service or both a data service and a voice service to select a base station that can provide best services and an optimal data rate in a mobile telecommunication system.

Regarding claim 10, Ponnekanti further discloses using the channel estimation information in decoding and/or demodulating the associated data bits (page 8 [0155]).

Regarding claim 11, Ponnekanti further discloses the second set of pilot bits are buffered prior to the step of deriving channel estimation information

(page 8 [0149]).

Regarding claim 12, Yun further discloses determining the gain factor used for transmitting the second set of pilot bits (page 2 [0022]); wherein the step of deriving power control information includes the step of deriving power control information from the first set of pilot bits and also from the second set of pilot bits using the determined gain factor (page 1 [0005] and page 3 [0036]).

Regarding claim 13, Yun further discloses the gain factor used for transmitting the second set of pilot bits is determined from signaling information received from the user device (page 2 [0022]).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ponnekanti (U.S PUB. 2002/0150065) in view of Yun et al. (US PUB. 2005/0111521 hereinafter, "Yun") as applied to claim 8 above, and further in view of Tiedemann, Jr. et al. (U.S PUB. 2004/0258024 hereinafter, "Tiedemann").

Regarding claim 9, Ponnekanti and Yun, in combination, fails to discloses generating a power control command based on the power control information; and sending the power control command to the user device. However, Tiedemann teaches generating a power control command based on the power control information (page 5 [0050]); and sending the power control command to the user device (page 10 [0096]). Therefore, it is obvious to one of ordinary skill

in the art at the time the invention was made to incorporate the disclosing of Tiedemann into view of Ponnekanti and Yun, in order to improve the response time of the forward link power control loop and allows for dynamic adjustment of the transmission power on the forward link by measuring the quality of the reverse link power control bits which are transmitted on the forward traffic channel at multiple times within a frame.

Conclusion

10. Any response to this action should be mailed to:

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Commissioner for Patents

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571) 272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Nguyen
Examiner
Art Unit 2643

NAY MAUNG
SUPERVISORY PATENT EXAMINER